This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (previously presented) A method of removing solar interference from radar data acquired from a radar site location, comprising:

extracting a site latitude, a site longitude and scan elevation time from the radar data;

determining the position of the Sun for the site latitude, the site longitude and the scan time;

determining if a radial has been contaminated with solar interference; and

removing the solar interference.

2. (original) The method of claim 1, wherein said method is performed if the Sun's position is with approximately a threshold elevation angle of an elevation scan angle.

3. (original) The method of claim 2, wherein the threshold elevation angle is between 0.5 and 1.3 degrees.

4. (original) The method of claim 1, further comprising accounting for inaccuracies in a clock at a radar site from which the radar data was received.

5. (currently amended) The method of claim 1, further comprising:

identifying the radial closest to a Sun azimuth and said ~~radials'~~ radial's neighboring radials; and

sorting a predetermined number of radials closest to the Sun position based on a number of non-zero echoes in each radial.

6. (original) The method of claim 1, wherein determining if a radial has been contaminated with solar interference further comprises:

determining if the number of non-zero echoes in a highest priority radial exceeds a predetermined threshold number of non-zero echoes;

determining if a difference of the number of non-zero echoes between the highest and lowest radial exceed a percentage threshold; and

determining if a three highest priority radials are azimuthally consecutive, and if so, returning a middle radial, otherwise returning a radial with the highest number of non-zero echoes.

7. (original) The method of claim 1, wherein removing the solar interference further comprises:

for each range gate of a radial N identified as being contaminated by solar interference, determining if an echo in a current range gate exceeds an intensity threshold; and

for echoes in the current range gate that do not exceed the intensity threshold, examining the current range gates for radials N-2 and N+2 determine if an echo for the current range gate for those radials is zero.

8. (original) The method of claim 7, wherein the intensity threshold is variable over a length and increases as the range increases for a radial.

9. (original) The method of claim 7, wherein if the range gates for the radials N-2 and N+2 are not zero, then the value of the current range gate for radial N is not changed and the next range gate for the radial N is examined.

10. (original) The method of claim 7, wherein if the range gates for the radials N-2 and N+2 are zero, then the value of the current range gate for radial N is changed to zero and the next range gate for the radial N is examined.

11. (original) The method of claim 7, further comprising:

for each range gate of the N+1 and N-1 radials, determining if an echo in a current range gate in the N+1 or N-1 radial does not exceed the intensity threshold; and

if an echo in the current range gate in the N+1 or N-1 radial does not exceed the intensity threshold, examining if the current range gates for both radials N-1 and N+1 are zero; and

setting a value of the current range gate for the radial N to 0 if the current range gates for both radials N-1 and N+1 are zero.

12. (previously presented) A method of determining if radar data acquired from a radar site location contains solar interference, comprising:

extracting a site latitude, a site longitude and scan elevation time from the radar data;

determining the position of the Sun for the site latitude, site longitude and the scan time;

determining if an elevation angle of the Sun is within approximately a threshold elevation angle of an elevation scan angle; and

examining radar data for radials closest to the Sun's position if the Sun is approximately said threshold elevation angle.

13. (original) The method of claim 12, wherein the threshold elevation angle is between 0.5 and 1.3 degrees.

14. (original) The method of claim 12, wherein examining radar data for radials closest to the Sun's position further comprises:

determining if the number of non-zero echoes in a highest priority radial exceeds a predetermined threshold number of non-zero echoes;

determining if a difference of the number of non-zero echoes between the highest and lowest radial exceed a percentage threshold; and

determining if a three highest priority radials are azimuthally consecutive, and if so, returning a middle radial, otherwise returning a radial with the highest number of non-zero echoes.

15. (original) The method of claim 12, further comprising removing the solar interference from radials containing said solar interference.

16. (original) The method of claim 15, wherein removing the solar interference further comprises:

for each range gate of a radial N identified as being contaminated by solar interference, determining if an echo in a current range gate exceeds an intensity threshold; and

for echoes in the current range gate that do not exceed the intensity threshold, examining the current range gates for radials N-2 and N+2 determine if an echo for the current range gate for those radials is zero.

17. (original) The method of claim 16, wherein the intensity threshold is variable over a length and increases as the range increases for a radial.

18. (original) The method of claim 16, wherein if the range gates for the radials N-2 and N+2 are not zero, then the value of the current range gate for radial N is not changed and the next range gate for the radial N is examined.

19. (original) The method of claim 16, wherein if the range gates for the radials N-2 and N+2 are zero, then the value of the current range gate for radial N is changed to zero and the next range gate for the radial N is examined.

20. (original) The method of claim 16, further comprising:

for each range gate of the N+1 and N-1 radials, determining if an echo in a current range gate in the N+1 or N-1 radial does not exceed the intensity threshold; and

if an echo in the current range gate in the N+1 or N-1 radial does not exceed the intensity threshold, examining if the current range gates for both radials N-1 and N+1 are zero; and

setting a value of the current range gate for the radial N to 0 if the current range gates for both radials N-1 and N+1 are zero.

21. (previously presented) A method of determining and removing solar interference from radar data acquired from a radar site location, comprising:

extracting a site latitude, a site longitude and scan elevation time from the radar data;

determining the position of the Sun for the site latitude, the site longitude and the scan time;

determining if an elevation angle of the Sun is within approximately a threshold elevation angle of an elevation scan angle, and if so:

compensating for inaccuracies in a clock time associated with said radar data;

determining if a radial has been contaminated with solar interference if the Sun's position is approximately a threshold angle; and

removing the solar interference.

22. (original) The method of claim 21, wherein the threshold elevation angle is between 0.5 and 1.3 degrees.

23. (original) The method of claim 21, wherein determining if a radial has been contaminated with solar interference further comprises:

determining if the number of non-zero echoes in a highest priority radial exceeds a predetermined threshold number of non-zero echoes;

determining if a difference of the number of non-zero echoes between the highest and lowest radial exceed a percentage threshold; and

determining if a three highest priority radials are azimuthally consecutive, and if so, returning a middle radial, otherwise returning a radial with the highest number of non-zero echoes.

24. (original) The method of claim 21, wherein removing the solar interference further comprises:

for each range gate of a radial N identified as being contaminated by solar interference, determining if an echo in a current range gate exceeds an intensity threshold;

for echoes in the current range gate that do not exceed the intensity threshold, examining the current range gates for radials N-2 and N+2 determine if an echo for the current range gate for those radials is zero; and

if the range gates for the radials N-2 and N+2 are not zero, then the value of the current range gate for radial N is not changed, and if the range gates for the radials N-2 and N+2 are zero, then the value of the current range gate for radial N is changed to zero; and

examining the next range gate for the radial N is examined.

25. (original) The method of claim 24, further comprising:

for each range gate of the N+1 and N-1 radials, determining if an echo in a current range gate in the N+1 or N-1 radial does not exceed the intensity threshold; and

if an echo in the current range gate in the N+1 or N-1 radial does not exceed the intensity threshold, examining if the current range gates for both radials N-1 and N+1 are zero; and

setting a value of the current range gate for the radial N to 0 if the current range gates for both radials N-1 and N+1 are zero.